

**CLAIMS APPENDIX**

The text of the claims involved in the appeal are:

1. A method of updating firmware in a system component within a data processing system, the method comprising:

responsive to receiving a notification that control has been transferred to a host operating system following completion of an initialization procedure, determining, by a service processor, whether the system component has a current level of the firmware; and

responsive to a determination that the system component does not have the current level of the firmware, updating a copy of the firmware stored in the system component in a background operation while the data processing system remains available to a user for other actions.

2. The method as recited in claim 1, further comprising:  
responsive to a determination that the update failed, notifying a user of the update failure.

3. The method as recited in claim 1, wherein the system component is a system power control network card in an input/output drawer.

4. The method as recited in claim 1, wherein updating the copy of the firmware stored in the system component comprises transferring a current copy of the firmware stored in a non-volatile memory accessible by the service processor.

5. The method as recited in claim 4, wherein the non-volatile memory is a non-volatile random access memory.

6. The method as recited in claim 4, wherein the non-volatile memory is a flash memory.

7. A method for updating system firmware in a data processing system, the method comprising:

in the background, and responsive to receiving a notification that an operating system has been loaded following completion of an initialization procedure, determining whether a level of a firmware copy on a system component matches a current level of firmware stored on a non-volatile memory within the system; and

responsive to a determination that the level of the firmware copy is different from the current level, transferring the current level of firmware to the system component to update the firmware copy on the system component.

8. The method as recited in claim 7, further comprising:

determining, after the update, whether a new level of the firmware copy on the system component matches the current level of the firmware stored on the system memory; and

responsive to a determination that the new level does not match the current level, notifying a user of a firmware update failure.

9. The method as recited in claim 8, wherein the step of notifying the user of the firmware update failure comprises creating a log file.

10. The method as recited in claim 7, wherein the system component is a system power control network card within a input/output drawer.

11. The method as recited in claim 7, wherein the non-volatile memory is a non-volatile random access memory.

12. The method as recited in claim 7, wherein the non-volatile memory is a flash memory.

13. A computer program product in a computer readable media for use in a data processing system for updating firmware in a system component, the computer program product comprising:  
first instructions, responsive to receiving a notification that control has been transferred to a host operating system following completion of an initialization procedure, for determining, by a service processor, whether the system component has a current level of the firmware; and  
second instructions, responsive to a determination that the system component does not have the current level of the firmware, for updating a copy of the firmware stored in the system component in a background operation while the data processing system remains available to a user for other actions.

14. The computer program product as recited in claim 13, further comprising:  
third instructions, responsive to a determination that the update failed, for notifying a user of the update failure.

15. The computer program product as recited in claim 13, wherein the system component is a system power control network card in an input/output drawer.

16. The computer program product as recited in claim 13, wherein updating the copy of the firmware stored in the system component comprises transferring a current copy of the firmware stored in a non-volatile memory accessible by the service processor.

17. The computer program product as recited in claim 16, wherein the non-volatile memory is a non-volatile random access memory.

18. The computer program product as recited in claim 16, wherein the non-volatile memory is a flash memory.

19. A computer program product in a computer readable media for use in a data processing system for updating system firmware in a data processing system, the computer program product comprising:

first instructions, executed in the background, and responsive to receiving a notification that an operating system has been loaded following completion of an initialization procedure, for determining whether a level of a firmware copy on a system component matches a current level of firmware stored on a non-volatile memory within the system; and

second instructions, responsive to a determination that the level of the firmware copy is different from the current level, for transferring the current level of firmware to the system component to update the firmware copy on the system component.

20. The computer program product as recited in claim 19, further comprising:

third instructions for determining, after the update, whether a new level of the firmware copy on the system component matches the current level of the firmware stored on the system memory; and

fourth instructions, responsive to a determination that the new level does not match the current level, for notifying a user of a firmware update failure.

21. The computer program product as recited in claim 20, wherein notifying the user of the firmware update failure comprises creating a log file.

22. The computer program product as recited in claim 19, wherein the system component is a system power control network card within a input/output drawer.

23. The computer program product as recited in claim 19, wherein the non-volatile memory is a non-volatile random access memory.

24. The computer program product as recited in claim 19, wherein the non-volatile memory is a flash memory.

25. A system for updating firmware in a system component, the system comprising:

first means, responsive to receiving a notification that control has been transferred to a host operating system following completion of an initialization procedure, for determining, by a service processor, whether the system component has a current level of the firmware; and

second means, responsive to a determination that the system component does not have the current level of the firmware, for updating a copy of the firmware stored in the system component in a background operation while the data processing system remains available to a user for other actions.

26. The system as recited in claim 25, further comprising:

third means, responsive to a determination that the update failed, for notifying a user of the update failure.

27. The system as recited in claim 25, wherein the system component is a system power control network card in an input/output drawer.

28. The system as recited in claim 25, wherein updating the copy of the firmware stored in the system component comprises transferring a current copy of the firmware stored in a non-volatile memory accessible by the service processor.

29. The system as recited in claim 28, wherein the non-volatile memory is a non-volatile random access memory.

30. The system as recited in claim 28, wherein the non-volatile memory is a flash memory.

31. A system for updating system firmware in a data processing system, the system comprising:

first means, executed in the background, and responsive to receiving a notification that an operating system has been loaded following completion of an initialization procedure, for determining whether a level of a firmware copy on a system component matches a current level of firmware stored on a non-volatile memory within the system; and

second means, responsive to a determination that the level of the firmware copy is different from the current level, for transferring the current level of firmware to the system component to update the firmware copy on the system component.

32. The system as recited in claim 31, further comprising:

third means for determining, after the update, whether a new level of the firmware copy on the system component matches the current level of the firmware stored on the system memory; and

fourth means, responsive to a determination that the new level does not match the current level, for notifying a user of a firmware update failure.

33. The system as recited in claim 32, wherein notifying the user of the firmware update failure comprises creating a log file.

34. The system as recited in claim 31, wherein the system component is a system power control network card within a input/output drawer.

35. The system as recited in claim 31, wherein the non-volatile memory is a non-volatile random access memory.

36. The system as recited in claim 31, wherein the non-volatile memory is a flash memory.